



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,878	06/24/2003	David Jon Hiner	W2K2070	3008

23504 7590 05/20/2005

WEISS & MOY PC
4204 NORTH BROWN AVENUE
SCOTTSDALE, AZ 85251

EXAMINER

ARBES, CARL J

ART UNIT	PAPER NUMBER
----------	--------------

3729

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,878

Applicant(s)

HINER ET AL.

Examiner

C. J. Arbes

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 20, 21, 27, 28, 31 and 34 is/are rejected.
- 7) ☒ Claim(s) 18, 19, 22-26, 29, 30, 32, 33 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date herein.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Art Unit: 3729

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 17, 20, 21, 27, 28, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burgess, Pat No. 4,642,160; hereinafter Burgess.

Burgess teaches a method of making a multilayered circuit board from a core layer (2) having a circuit pattern (12) (which overlying the core layer) and a dielectric material (16) overlying the conductor layer or circuit pattern and forming another conductive layer (18) over the dielectric layer. Material of the continuous outer layer is removed by means of laser drilling at a predetermined location. Dielectric which is exposed is also removed at the same time so as to form an opening to expose the circuit pattern.

Conductive material is deposited into the opening whereby the circuit pattern is electrically connected to the conductor layer. The portion of the circuit layer whereat the conductive material connects the circuit pattern is construed to be attachment terminals.

If Burgess in fact is deficient in teaching attachment terminals which it is believed this teaching is nary deficient then it would be appropriate to hold that the attachment terminals are an equivalent of what the Patent Office indicated they were hereinabove.

Alternatively it held to have been obvious to provide attachment terminals on the circuit pattern in order to allow the IC substrate operate or function. As applied to claim 20 it is the conformal coating is construed to be at 20 (Cf. Fig 6 and related disclosure). As applied to claim 21 the circuit pattern is construed as 18 (CF e.g. Figs. 4-6) and the

Art Unit: 3729

conformal coating as 20 (Cf Fg 6) before the laser drilling step. Moreover Burgess also teaches electrolessly plating the substrate (Cf. e.g. 38 in Fig. 8). As further applied to claim 27 Burgess teaches attaching a metal layer to a board by means of an adhesive (Cf. bottom of Col 8) . As applied to claim 28 the photoresist (a dielectric) is laminated onto the metal 18 (Cf Fig. 6).

Claims 16, 17 and 31 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Deroux-Dauphin et al (Pat No. 4,964,212); hereinafter Deroux—Dauphin et al. Deroux-Dauphin et al teach a method for producing electrical connections through a substrate or dielectric layer wherein a conductive circuit pattern is formed (Cf. Fig 7 and related disclosure) and laser drilling perforations from one side of the dielectric layer through to the conductive circuit pattern. The laser drills from a second side so as to expose a bottom side of the conductive circuit pattern (Cf Fig 7 and related disclosure). If Deroux-Dauphin et al , in fact, are deficient in teaching attachment terminals which it is believed this teaching is nary deficient in teaching, then it would be appropriate to hold that the attachment terminals are an equivalent of what the Patent Office indicated they were hereinabove i.e. near the leader line end of 36.

Claims 16, 17, 31 and 34 are yet further rejected under 35 U.S.C. 103(a) as being unpatentable over Foster et al, Pat. No. 5,108,553; hereinafter Foster et al. Foster et al teach a process for making a circuit having multiple conductive planes by means of a photoetching technique and providing a conductive via which via is made by means of a laser drilling step. If Foster et al, in fact, are deficient in teaching attachment terminals which it is believed this teaching is nary deficient in teaching, then

Art Unit: 3729


it would be appropriate to hold that the attachment terminals are an equivalent of what the Patent Office indicated they were hereinabove i.e. near or at 12 or 12'.

Claims 18, 19, 22-26, 29, 30, 32, 33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


C.J. Arbes
Primary Examiner
Art Unit 3729